MYCOTAXON

ISSN (print) 0093-4666 (online) 2154-8889 Mycotaxon, Ltd. ©2017

October–December 2017—Volume 132, pp. 951–955

https://doi.org/10.5248/132.951

Three new combinations in *Drepanopeziza* for species on poplar

Amy Y. Rossman[1*], W. Cavan Allen[2],
Lisa A. Castlebury[2] & Gerard Verkley[3]

[1]*Department of Botany & Plant Pathology, Oregon State University, Corvallis, Oregon 97331, USA*
[2]*Mycology & Nematology Genetic Diversity & Biology Laboratory, USDA-ARS, Beltsville, Maryland 20705, U.S.A.*
[3]*Westerdijk Fungal Biodiversity Institute, Utrecht, The Netherlands*

* Correspondence to: *amydianer@yahoo.com*

Abstract—Three species of *Drepanopeziza* that cause diseases of poplars have been known under different scientific names for their sexual and asexual morphs, which is no longer allowed with the change to one scientific name for fungi. For each of these species, the oldest epithet is provided by the asexual morph; however, neither of the generic names available for the asexual morphs can be used for these species. As a consequence new combinations for the three species are required and can be accomplished by applying the oldest asexual morph epithet in the genus *Drepanopeziza*. The following new combinations are made: *Drepanopeziza brunnea*, *D. castagnei*, and *D. populi*.

Key words—fungal nomenclature, plant pathogen, pleomorphic fungi

Introduction

Following a careful study of type and other specimens, three species of *Drepanopeziza* that cause diseases of poplar were delineated by Spiers & Hopcroft (1998), who cited separate scientific names for their sexual and asexual morphs. Because the International Code of Nomenclature for algae, fungi and plants (ICN, McNeill et al. 2012) requires the adoption of one scientific name for different morphs of one fungal taxon, these sexual and asexual names now compete for use. For these three *Drepanopeziza*

species—*D. populi-albae, D. populorum,* and *D. tremulae*—the asexual morphs provide the oldest epithets. Pirozynski (1974a,b,c) presented an account of each of these species: *D. tremulae* as *Marssonina brunnea, D. populi-albae* as *Marssonina castagnei,* and *D. populorum* as *Marssonina populi*, while Spiers (1988) included a conidia-based key to these *Marssonina* species. Gremmen (1965) recognized the same three taxa in *Drepanopeziza* but described one of them as a new species, *D. punctiformis* Gremmen 1965, apparently unaware of the earlier synonym *D. tremulae* Rimpau 1962.

In determining the generic names to use for competing synonyms, Rossman et al. (2016) recommended that *Drepanopeziza* (Kleb.) Jaap 1914 be used rather than the competing generic names *Gloeosporidiella* Petr. 1921 or *Gloeosporium* Desm. & Mont. 1849. All three of these species of *Drepanopeziza* on poplar have previously been placed in the genus *Marssonina;* however, these species are not congeneric with the *Marssonina* type species, *M. potentillae* (Desm.) Magnus 1906, now recognized as *Diplocarpon earlianum* (Ellis & Everh.) F.A. Wolf 1924 (Johnston et al. 2014). *Diplocarpon* F.A. Wolf 1912 is now regarded as the correct generic name for species formerly classified in *Marssonina* Magnus 1906. Some authors use the *Drepanopeziza* names for these species, as determined by Spiers & Hopcroft (1998); however, the asexual morph names provide older epithets and are used more commonly (albeit in the asexual morph genera that are no longer available for use). Rather than conserve the less commonly used sexual morph names, it seems least disruptive to make new combinations in *Drepanopeziza* using the asexual morph names, as proposed here.

Taxonomy

Drepanopeziza brunnea (Ellis & Everh.) Rossman & W.C. Allen, **comb. nov.**
MycoBank MB822026

≡ *Gloeosporium brunneum* Ellis & Everh., J. Mycol. 5: 154 (1889).
Type: U.S.A.: New Jersey, Newfield, on leaves of *Populus candicans*, Aug 1889, Ellis & Everhart in North American Fungi, second ser. 2444 (**Lectotype designated here**, BPI 402970, under *Marssonina* brunnea).

≡ *Marssonina brunnea* (Ellis & Everh.) Magnus, Hedwigia 45: 88 (1906).

= *Drepanopeziza tremulae* Rimpau, Phytopathol. Z. 43: 288. (1962).
Type: Switzerland, Kt. Zürich, am Uetliberg, bei Station Uitikon-Waldegg, on *Populus tremula*, 7 Mai 1961, Rimpau (holotype, ZT-Myc 57794).

= *Drepanopeziza punctiformis* Gremmen, Nova Hedwigia 9: 172 (1965).
Type: Batava [the Netherlands], Meppel, in foliis *Populi euroamericana* 'Serotina', 9.X.1961, Gremmen (holotype, herb. Gremmen 1811).

Drepanopeziza brunnea causes a leaf spot disease of *Populus* that occurs worldwide in temperate regions (Callan 1998, Farr & Rossman 2017). Spiers & Hopcroft (1998) concluded that *D. tremulae* provided the oldest name for the sexual morph of which *D. punctiformis* is a synonym. Pirozynski (1974a) presented a description of this species using the asexual morph name *Marssonina brunnea* based on *Gloeosporium brunneum*. Because neither *Gloeosporium* nor *Marssonina* can be used as a generic name for this species, the name *D. brunnea* is established based on *Gloeosporium brunneum*.

The type of *G. brunneum* was issued as Ellis & Everhart, North America Fungi second series 2444, and the specimen at BPI is designated here as the lectotype. According to Spiers & Hopcroft (1998), "type material of *D. tremulae* was not deposited by Rimpau with other specimens at ZT and therefore was probably lost." However, the holotype specimen was later found at ZT (R. Berndt pers. comm. 31 Jan 2017).

Drepanopeziza castagnei (Desm. & Mont.) Rossman & W.C. Allen, comb. nov.
MycoBank MB822027
≡ *Gloeosporium castagnei* Desm. & Mont., Ann. Sci. Nat. Bot., sér. 3, 12: 295 (1849). Type: France, Aix, on *Populus alba*, 1852, Castagne, ex Herb. Bois, Shear Type and Rarities Ser. 1 (**Lectotype designated here**, BPI barcode 797921).
≡ *Marssonina castagnei* (Desm. & Mont.) Magnus, Hedwigia 45: 88 (1906).
= *Pseudopeziza populi-albae* Kleb., Haupt- und Nebenfruchtform. Ascomyz. 1: 344 (1920) ["1918"]. Type: Germany, Berlin, Dahlem, Garten der Biologischen Reichsanstalt, on leaves of *Populus alba*, Oct 1913, Laubert (holotype, HBG).
≡ *Drepanopeziza populi-albae* (Kleb.) Nannf., Nova Acta R. Soc. Scient. Upsal., Ser. 4 8(2): 170 (1932).

Drepanopeziza castagnei causes a leaf disease of poplar that is widespread in temperate regions (Callan 1998, Farr & Rossman 2017). Spiers & Hopcroft (1998) considered *Marssonina castagnei* based on *Gloeosporium castagnei* to be the asexual morph of *D. populi-albae*. Pirozynski (1974b) provided an account of this species under the asexual morph name *Marssonina castagnei*. Because neither *Gloeosporium* nor *Marssonina* can be used as a generic name for this species, it is least disruptive to make a new combination in *Drepanopeziza* with the oldest and familiar epithet *castagnei*.

Although Spiers (1988) mentioned that "Type and isotype material of *M. castagnei* was obtained from…" BR and PC, he did not present details of the specimens, so his work cannot be considered lectotypification of the name *G. castagnei*. A specimen matching the protologue exists at BPI, and this specimen is designated here as the lectotype. According to Stafleu & Cowan (1976) Klebahn's specimens are housed at B, but Robert Lücking

(pers. comm.) reported that the type of *Pseudopeziza populi-albae* is not found there. Rather, a specimen matching the protologue was located at HBG.

Drepanopeziza populi (Lib.) Rossman & W.C. Allen, **comb. nov.**

MycoBank MB 822028

≡ *Leptothyrium populi* Lib., Pl. Crypt. Arduenna, fasc. 3: no. 257 (1834).
Type: France, on *Populus*, autumn (**Lectotype designated here**, FH).

≡ *Marssonina populi* (Lib.) Magnus, Hedwigia 45: 88 (1906).

= *Trochila populorum* Desm., Pl. Crypt. Nord France Ed. (2) 2, no. 451 (21 Mar 1857).
Type: France, on dried leaves of *Populus nigra*, spring, 1857, Grance, Herb. Desmazières (lectotype, PC; isolectotypes, BR, BPI-bound).

≡ *Drepanopeziza populorum* (Desm.) Höhn., Ann. Mycol. 15: 332 (1917).

Drepanopeziza populi causes a leaf disease of poplar that is widespread in temperate regions (Callan 1998, Farr & Rossman 2017). Spiers & Hopcroft (1998) considered *Marssonina populi*, based on *Leptothyrium populi*, to be the asexual morph of *D. populorum*. This fungus was described and illustrated by Pirozynski (1974c) using the asexual morph name *Marssonina populi*. As neither *Gloeosporium* nor *Marssonina* is available as a generic name for this species, it is least disruptive to combine the well-used epithet in the appropriate genus *Drepanopeziza* as *D. populi*.

The name *Leptothyrium populi* was published in an exsiccati number that includes a description; the title page of the fascicle carries the date 1834 (Pfister 1985) but Sayre (1969) dated it as 1837 on the basis of reviews. The type specimen of *Trochila populorum* was issued as part of Desmazières' exsiccati on 21 March 1857, according to Pfister (1985). This number includes a description on the label and thus should be regarded as the original description and type specimen. This name was also included in an article published later in March 1858 in Desmazières (1858), which has mistakenly been regarded as the place of publication. A lectotype was designated by Spiers & Hopcroft (1998).

Acknowledgements

We thank curatorial staff at several herbaria for their assistance, specifically Reinhard Berndt (ZT), Robert Lücking (B), Donald Pfister (FH), and Matthias Schultz (HBG). In addition we appreciate the thoughtful reviews of Jeffrey Stone (Oregon State University, Corvallis) and Peter Johnston (Landcare Research, Auckland, New Zealand).

Mention of trade names or commercial products in this publication is solely for the purpose of providing specific information and does not imply recommendation or endorsement by the United States Department of Agriculture. USDA is an equal opportunity provider and employer.

Literature cited

Callan BE. 1998. Diseases of *Populus* in British Columbia: a diagnostic manual. Natural Resources Canada, Canadian Forest Service.

Desmazières JBHJ. 1858 ["1857"]. Vingt-quatrième notice sur les plantes cryptogames récemment découvertes (suite). Bulletin de la Société Botanique de France 4(9): 858–863. https://doi.org/10.1080/00378941.1857.10829049

Farr DF, Rossman AY. 2017. U.S. National Fungus Collections Databases, retrieved 20 Jan 2017, from https://nt.ars-grin.gov/fungaldatabases

Gremmen J. 1965. Three poplar-inhabiting *Drepanopeziza* species and their life-history. Nova Hedwigia 9: 170–176.

Johnston PR, Seifert KA, Stone JK, Rossman AY, Marvanová L. 2014. Recommendations on generic names competing for use in *Leotiomycetes* (*Ascomycota*). IMA Fungus 5: 91–120. https://doi.org/10.5598/imafungus.2014.05.01.11

McNeill J, Barrie FF, Buck WR, Demoulin V, Greuter W, et al. (eds). 2012. International Code of Nomenclature for algae, fungi, and plants (Melbourne Code). [Regnum Vegetabile no. 154.] Königstein: Koeltz Scientific Books.

Pirozynski KA. 1974a. *Marssonina brunnea*. Fungi Canadenses 13. 2 p.

Pirozynski KA. 1974b. *Marssonina castagnei*. Fungi Canadenses 14. 2 p.

Pirozynski KA. 1974c. *Marssonina populi*. Fungi Canadenses 15. 2 p.

Pfister DH. 1985. A bibliographic account of exsiccatae containing fungi. Mycotaxon 23: 1–139.

Rossman AY, Allen WC, Braun U, Castlebury LA, Chaverri P, et al. 2016. Overlooked competing asexual and sexually typified generic names of *Ascomycota* with recommendations for their use or protection. IMA Fungus 7: 289–308. https://doi.org/10.5598/imafungus.2016.07.02.09

Sayre G. 1969. Cryptogamae exsiccatae--an annotated bibliography of published exsiccatae of algae, lichenes, hepaticae, and musci. Memoirs of the New York Botanical Garden 19. 174 p.

Spiers AG. 1988. Comparative studies of type and herbarium specimens of *Marssonina* species pathogenic to poplars. European Journal of Forest Pathology 18: 140–156. https://doi.org/10.1111/j.1439-0329.1988.tb00912.x

Spiers AG, Hopcroft DH. 1998. Morphology of *Drepanopeziza* species pathogenic to poplars. Mycological Research 102: 1025–1037. https://doi.org/10.1017/S0953756297005972

Stafleu FA, Cowan RS. 1976. Taxonomic literature. A selective guide to botanical publications and collections with dates, commentaries and types. Vol. 1. Bohn, Scheltema and Holkema.